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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,658	09/15/2003	Thomas R. Mee III	51034/SDB/M60	1868

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EXAMINER

KIM, CHRISTOPHER S

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,658

Applicant(s)

MEE, THOMAS R.

Examiner

Christopher S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/18/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. However, the provisional application upon which priority is claimed was abandoned before the filing of this application.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "thin" recited in claims 11 and 16; and the "locally thinned" recited in claims 4, 12 and 17 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of

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the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 11 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites ranges which exceed the ranges recited in claim 1.

The term "thin" in claims 11 and 16 is a relative term which renders the claims indefinite. The term "thin" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is uncertain what range of thickness is being claimed.

The term "locally thinned" in claims 4, 12 and 17 is a relative term which renders the claims indefinite. The term "thin" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is uncertain what range of thickness is being claimed.

Claim 5 recites "a larger hole" and "a smaller hole". They appear to be double inclusions of the "plurality of holes recited in claim 1.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 15-18, 20, 21 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Matten et al. (6,193,165).

Matten discloses a multiple spray nozzle apparatus comprising: a plurality of humidifying tubes 1; and air flow duct 12.

7. Claims 15-17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Umbricht et al. (3,059,861).

Umbricht discloses a multiple spray nozzle apparatus comprising: a plurality of humidifying tubes 46; a patch having a smaller hole 154; an impact surface 158; an air duct 38.

8. Claims 20, 22, 23 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Green (3,946,762).

Green discloses a multiple spray nozzle apparatus comprising: a plurality of humidifying tubes 15; a patch having a smaller hole 24.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, 7, 10-13 rejected under 35 U.S.C. 103(a) as being unpatentable over *Matten et al.* (6,193,165).

Matten discloses a multiple spray nozzle apparatus comprising: a plurality of humidifying tubes 1; and air flow duct 12. *Matten* discloses preferable ranges of hole lengths and diameters outside of applicant's claimed ranges. Note that *Matten* does not prohibit values outside of the preferred ranges. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided hole diameters in the range of 10 to 100 micrometers and hole lengths in the range of 20 to 200 micrometers, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

11. Claims 1, 2, 4-7, 9-12, 14, 22, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Umbricht et al.* (3,059,861).

With respect to claims 1, 2, 4, 5, 6, 7, 9, 10, 11, 12 and 14, *Umbricht* discloses a multiple spray nozzle apparatus comprising: a plurality of humidifying tubes 46; a patch having a smaller hole 154; an impact surface 158. *Umbricht* does not disclose the range of hole diameter and length. It would have been obvious to one having ordinary

skill in the art at the time the invention was made to have provided hole diameters in the range of 10 to 100 micrometers and hole lengths in the range of 20 to 200 micrometers, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claims 22, 23 and 25, Umbricht discloses the limitations of the claimed invention with the exception of the patch being thinner than the tube wall. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a patch thickness thinner than the wall thickness, since It has been held that changing size involves only routine skill in the art. *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matten et al. (6,193,165) in view of Eckert (3,419,251)


Matten discloses discloses the limitations of the claimed invention with the exception of the laterally extending tubes on opposite sides of a water supply pipe. Eckert teaches laterally extending tubes 8 from water supply pipe 1. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided laterally extending tubes from the water supply pipe of Matten as taught by Eckert for use in a circular cross section column.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (703) 308-8336. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Y. Mar can be reached on (703) 308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Christopher S. Kim
Primary Examiner
Art Unit 3752

CK